

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Rejections under Section 112, First Paragraph

Claim 22 has been rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully disagree. See for example: Fig. 21; “events D, C, and A are dispatched in an order determined by the Scheduling and Arbitration block” (see text in Fig. 21); “the use of piles for scheduling and arbitration can be implemented in software using a general purpose processor or in hardware” (page 31, lines 15-16 - emphasis added); “arbitration of the ‘winning’ event, where ‘winning’ is taken to mean the properly chosen next event to process” (page 33, lines 11-12); “Applicants contemplate that functional implementations of invention described herein may be implemented equivalently in hardware, software, firmware, and/or other available functional components or building blocks” (page 43, lines 9-11 - emphasis added); etc. One skilled in the art would appreciate the inventors had full possession of the claimed invention at the time the application was filed.

Rejections under 35 USC 101

Claims 22-27 were rejected under 101 as the claims were directed to a non-statutory subject matter. Applicants respectfully disagree. First, claim 22 involves a transformation to a different state. For example, claim 22 defines program instructions for selecting one of the events and processing the selected event, which involves a new state where the selected event has been processed. Secondly, Applicants define a computer readable medium. See for example: “Applicants contemplate that functional implementations of invention described herein may be implemented equivalently in hardware, software, [and] firmware” (page 43, lines 9-10 - emphasis added). Firmware includes software instructions stored in hardware, thus firmware encompasses a computer readable medium, and the Office’s rejection is improper.

Rejections under 35 USC § 102

Claims 5-10 and 22-27 have been rejected under 35 USC 102(e) as being anticipated by Cochran et al. (U.S. Patent No. 6,701,324). This rejection is respectfully traversed.

Claim 5 defines defining a data structure with a root level having a node group, the node group having k number of nodes, each of the k number of nodes sharing a pointer, each of the k number of nodes stored contiguously in memory, wherein the k number is equal to a number of multiple queues. The Office has asserted that Cochran teaches the aforementioned in Fig. 1A, item 110, 108n, 106 and 104, col. 5, lines 18-22 and col. 8, lines 41-46. More specifically with respect to the feature of storing nodes contiguously in memory, in the Response to Arguments section the Office has asserted that “[Cochran] refers to it as persistent depot, illustrated in fig. 1A and col. 3, lines 46-67.” Applicants respectfully disagree.

Cochran teaches that “collection data in the form of data packs 408 and data segments 422 are stored on disk within depot 302. Depot 302 maintains an indexed archive of data packs 408 on disk, indexed utilizing the CTOC identifier 410 for the collection data. Depot 302 also implements thread-safety and crash-recovery mechanisms” (col. 8, lines 35-40 - emphasis added). According to Merriam-Webster Online Dictionary, contiguous means “*touching or connected throughout in an unbroken sequence*” (emphasis added). Thus, a depot storing data in data packs and data segments that are indexed, as in Cochran, means that the data is distributed throughout the disk, therefore, it can not anticipate nodes that are stored contiguously, as claimed by Applicants.

Still yet, it seems that the Office has pointed to Routing Manager 110 from Cochran to anticipate a root level. In the Response to Arguments the Office has asserted that the feature “nodes sharing a pointer” is taught by Cochran because “Gateways and collectors (106 and 108) are interpreted as pointers shared by nodes 104” (see page 5, emphasis added). However, Routing Manager 110 does not have a node group of nodes sharing a pointer, because nodes 104 of Cochran are subordinates of gateway 106 and are not subordinates of Routing Manager 110, as seen in Figure 1A. Furthermore, Gateways and Collectors are not at a root level as illustrated in Figure 1A of Cochran. Therefore, Cochran does not anticipate a root level having a node group, the node group having k number of nodes, each of the k number of nodes sharing a pointer, as claimed by Applicants.

Furthermore, the Office has not provided an explanation on how Cochran teaches the claimed feature where the k number is equal to a number of multiple queues. Cochran teaches two queues at the Collector, input queue 402 and output queue 404 (see Fig 4). On the other hand, Cochran teaches multiple nodes in the data structure, for example, in Fig. 1A it can be seen that collectors have 3 children, and Gateways have 4 children. Nowhere does

Cochran teach that the number of queues is equal to the number of nodes sharing a pointer, and the Office has ignored this feature in the rejection. Accordingly, the Office's rejection is improper.

Claim 5 also describes identifying queues, each of the queues associated with a corresponding priority, each of the queues including events. The Office has asserted that identifying queues, each queue associated with a corresponding priority is anticipated in fig. 4, items 402, 404 and 406. The Office has failed to assert where Cochran teaches that each of the queues include events. Applicants will interpret that this limitation is taught by Cochran also, where the queues are elements 402, and 404, and the events are elements 406. Applicants respectfully disagree that Cochran teaches the claimed features.

Cochran teaches that "CTOC 406 forms the 'header' portion of collection data, which is utilized by both data-generation endpoints and intermediate collector nodes in the collection network to inform upstream nodes of the availability of the data for pickup" (Col. 7, lines 45-51 - emphasis added). Thus, nothing in Cochran teaches that CTOC 406 is a queue and Applicants will interpret that CTOC 406 correspond to the events included in the queues. Cochran teaches that elements 402 and 404, as seen in Fig. 4, correspond to input and output queues, and that "queues 402 and 404 are maintained in sorted order with the primary sort key being the CTOC priority, which ranges from priority level 0 up to priority level 4" (col. 7 lines 16-19 - emphasis added). However, teaching that CTOC queues use a priority mechanism for sorting, does not suggest that each queue is associated with a corresponding priority (emphasis added), because the elements in the queue (CTOC 406) are the ones with an associated priority, and not the queues. Thus, Cochran does not teach identifying queues, each of the queues associated with a corresponding priority, each of the queues including events, as claimed by Applicants.

Further, Claim 5 defines determining a priority between the respective nodes based on respective values representing the corresponding priority to the respective nodes. The Office has asserted that Cochran teaches this feature in fig. 3, 108n, 110, 302 and col. 7, lines 10-19 and lines 53-59. Applicants respectfully disagree. The Office has not provided consistent reasoning on how Cochran anticipates Applicants claims, and more specifically, how Cochran anticipates the features of the nodes claimed by Applicants. Firstly, in the Response to Arguments the Office has asserted that the feature "nodes sharing a pointer" is

“interpreted as pointers shared by nodes 104” (see page 5, emphasis added). Secondly, the Office has asserted that “Cochran teaches storing nodes in contiguous memory and refers to it as a persistent depot” (see page 6). Cochran also teaches that “the primary objective for collectors 108a-108n is to collect data from all corresponding endpoints 104 assigned to route data to the respective collector 108a-108n, and store the received data in a persistent depot until another collector or the ultimate recipient is ready to receive the collected data (col. 3, lines 55-60 - emphasis added). Since the endpoints 104 are the only nodes stored in the persistent depot, the Office has implied again that Applicant’s nodes are anticipated by Cochran endpoints 104. Additionally, only endpoints 104 from Cochran anticipate nodes as claimed, because other elements in Cochran, such as collectors, are not stored together. However, with respect to the feature of determining a priority between the respective nodes based on respective values representing the corresponding priority to the respective nodes, the Office points to collectors 108, instead to the previously described nodes, and the Office’s rejection is improper because the collectors do not share the features that are stored together or that they share a pointer. The Office has not provided a coherent argument on how Cochran teaches Applicants’ claims, as it refers to different elements in Cochran (endpoints, collectors) to anticipate the same claimed feature (nodes), but not one element in Cochran teaches all the features associated with Applicants’ claimed nodes.

There are also deficiencies with respect to the rejections of the dependent claims. For example, claim 10 defines resolving conflicts between respective nodes assigned a same value by rotating a pointer among the respective nodes assigned the same value. The Office has asserted in the Response to Arguments that Cochran teaches this limitation in the following excerpt:

“Referring to FIG. 4, a diagram of a collector in accordance with a preferred embodiment of the present invention is illustrated. The collector is a fundamental element of the distributed data collection service of the present invention, and is responsible for storing and forwarding collected data towards the eventual destination. The collector is a mid-level management object having one instance per host, and providing priority-based queuing of collection requests, depoting of collection data, a crash recovery mechanism for collection data transfers, and multi-threaded transfer scheduling of collection requests in the queues) (col. 6, lines 47-58).

Additionally, the Office has asserted that “based on availability the available node points to the gateway 106 or collector 108 to forward data for collection.” This statement is

wholly unsupported in the aforementioned excerpt. Applicants respectfully request that the Office explain where Cochran teaches “the available node,” and more specifically that “the available node points to the gateway 106 or collector 108.” The Office’s assertion is not supported by the teachings for Cochran, and the Office’s rejection is thus improper.

For at least these reasons, Claims 5 and 10 are submitted to be patentable over the art of record. Independent claim 22 is believed to be patentable for at least the same reasons as with respect to claim 5. Therefore, the Office is respectfully requested to withdraw the § 102 rejection, as not all elements are taught by Cochran. The dependent claims are submitted to be patentable for at least the same reasons the independent claims are believed to be patentable. The Applicants therefore respectfully request reconsideration and allowance of the pending claims. A Notice of Allowance is respectfully requested.

If the Examiner has any questions concerning the present request, the Examiner is kindly requested to contact the undersigned at (408) 774-6920. If any other fees are due in connection with filing this amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No. ALTEP072). A duplicate copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
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